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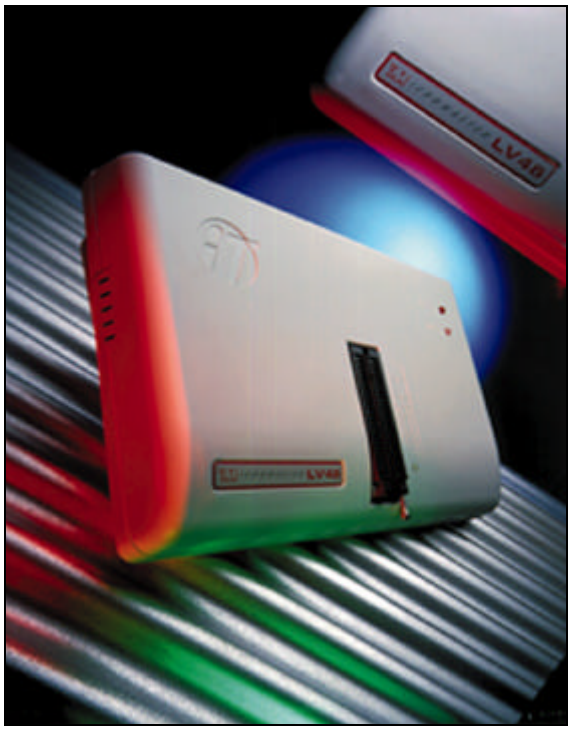
Micromaster LV48 Universal Programmer



FEATURES

- Enhanced Universal Device support for Flash, EPROMs, EEPROMs, Serial PROMs, NVRAMs, BPROMs; PALs, GALs, CPLDs and over 400 microcontrollers
- No additional adapters required for DIP devices up to 48-pins
- FREE lifetime software upgrades from the Internet
- Supports standard 5V and Low Voltage devices down to 1.8V with +/- 5% marginal verification
- Windows® 95/98/NT4 & DOS software supplied as standard
- Major manufacturer approved
- High speed programme and verify: 28F160B3 in 30 seconds
- Universal adapters available for 44-pin PLCC, 44-pin PSOP, 44-pin QFP/TQFP and 48-pin TSOP devices
- Optional built-in 8 & 16-bit ROM/RAM Emulator cards
- Interfaces to PC parallel port: SPP or ECP
- Built in IC Tester for 74 & 4000 series, SRAM and DRAM
- Works from batteries or from adapter/recharger provided

The *Micromaster LV48* is a low cost, 48-pin Universal programmer supporting a full range of memory, microcontroller and programmable logic devices. Connecting directly to a standard PC parallel port, the Micromaster LV48 is easy to install, and even easier to use. Packed with features, the LV48 is designed with the future in mind, with full support for 5, 3.3, 2.7 and 1.8V devices, all as standard. And with ***free*** software updates on BBS and Internet, you can always keep up to date.

DEVICE SUPPORT

- ✓ 8 and 16 bit Memory: EPROM, Paged EPROM, Parallel & Serial EEPROM, Serial EPROM and Flash, up to 64Mbit
- ✓ NVRAM and BPROMs
- ✓ Programmable Logic: PAL & GAL, PEEL, PALCE etc.
- ✓ Complex PLDs: Altera MAX, Xilinx EPLD, Vantis MACH etc.
- ✓ Peripheral Devices: PSD, FirmWare Hub etc.
- ✓ Over 300 microcontrollers: PIC, 8748/51/196, AVR, 8951, ST6, SAB-C5xx, XA-G3, Z86, MC705/711, W78Exx, COP8, TMS320/370 etc.

See full device support list for comprehensive parts listing.

All on-chip features including Security, Serialisation, Oscillator settings, Watch-Dog Timer, RAM size, Brown-Out etc. are supported and easy to select.

LOW VOLTAGE SUPPORT

The Micromaster LV48 features low voltage logic circuits which enable correct handling of devices down to 1.8V. Rather than programming, and verifying 1.8, 2.7 or 3.3V parts at 5V as most other programmers have to, the LV48 is intelligent enough to select the correct voltage for the particular device, and most importantly, to verify the device at it's nominal operating voltage.

BATTERY OPERATION

In addition to running from the mains adapter provided, the Micromaster LV48 also works from batteries, giving even greater flexibility.

- Works from 8 AA batteries (standard or rechargeable)
- Long battery life - Programmer powers down during periods of inactivity, & powers up only during active operations
- Built in recharging circuit
- Ideal for use with Laptops

SPEED OF PROGRAMMING

With memory device sizes increasing, speed of programming is critical in cutting development and production times. ICE Technology has always prided itself in having the fastest device programmers possible.

Device	Time
27C512	11 secs
Intel 28F400B3	6.5 secs
Intel 28F640J5	4 min 20 secs
GAL16V8	2 secs
PIC16C54	2 secs
All times include total time to programme and verify the device	

MORE THAN JUST A PROGRAMMER

With the Micromaster LV48, you get not only a Universal programmer, but also a tester for TTL, CMOS, DRAM and SRAM devices - all as standard. In addition to this, ROM/RAM emulator options are also available to speed up your development times.

SOFTWARE FUNCTIONS

The software for the Micromaster LV48 operates under Windows® 9x/ NT4 and DOS environments. Easy to follow step through menus provide full functionality, including:

- File load, edit and save
- Data formats: Intel Hex, Motorola S-Record, Hex Auto-Recognition TekHex, Extended TekHex, ASCII, Raw Binary, Octal, MOSTech, Altera POF, Altera JAM etc.
- Extensive Buffer editing commands
- Password protected Buffer option
- Checksum in 3 popular formats + CRC checking
- Read Device, Device Checksum, Verify Data, Verify Signature, Blank Check, Bit Test, Device Erase, Over-Programme
- Programming Options for device serialisation, marginal verify, Auto-Programme Pre-test etc.
- Hands-Free mode programming in Windows, single keystroke action in DOS, for continuous programming, reducing the margin of operator error
- Programming Successes counter
- Supports all microcontroller features including Oscillators, Brown-Out, Watch-Dog Timer, RAM size etc.
- Full Security & Encryption array support
- JEDEC Fusemap editing capability
- Edit and apply test vectors for up to 40-pins DIP/44-pins PLCC
- Checks device position in socket before applying voltages to pins
- Project option allows complete device configuration to be stored, minimising future set-up times
- Batch software enables user macros to be written for customised software interface under DOS.
- On-line Help in Windows

BUILT IN ROM/RAM EMULATOR OPTIONS

Optional ROM/RAM Emulator cards turn the Micromaster LV48 into a powerful development tool. The cards fit inside the programmer and are available in 8 or 16-bit formats.

Full details on the LVEC built in emulators are available on the Emulator data sheet.

MANUFACTURER APPROVED

All device algorithms are implemented using only manufacturer approved programming specifications. ICE Technology works very closely with all of the semiconductor vendors to ensure the complete integrity and reliability of the algorithms.

The Micromaster LV48 programmer has been officially approved by a number of major manufacturers including AMD, Atmel and Microchip. Many other silicon vendors recommend the unit as a development tool, including Altera, Fairchild, Fujitsu, ICT, Infineon, Intel, Macronix, Motorola, National Semiconductor, ST Microelectronics, Siemens, SST, Winbond and Xilinx.

SOFTWARE UPDATES

FREE software updates are available from our Web page, and can be downloaded at any time, giving you the very latest software revisions at no extra charge. In addition, custom software and device support is also available.

ENVIRONMENTAL SPECIFICATIONS

CE Compliance :

The Micromaster LV48 complies to the requirements of the Low Voltage Directive 73/23/EEC and EMC directive 89/336/EEC. It was tested to and met the following standards:

- EN 55022 Emission Test (Class A)
- EN 50082-1 Immunity Tests
- FCC Level B

Temperature :

- +41ºF to +104ºF (+5ºC to +40ºC)

Safety Standards :

- UL1950, TUV EN60950

Humidity :

- 20% to 80% RH non-condensing

PACKAGE ADAPTERS

Any device up to 48-pins in DIP packaging is supported without the need for any additional adapter or module. However, a range of high quality socket adapters is available to support surface mount parts: PLCC, QFP, SOIC, TSOP, PSOP etc. See price list for full details.

GUARANTEE & SUPPORT

- Full refund if not completely satisfied within 30-days
- Full one year warranty
- Selftest software provided for full hardware and firmware diagnostics
- FREE lifetime technical support & software upgrades

PHYSICAL SPECIFICATIONS

- Software operates under Windows® 9x/NT4 or DOS on any PC with parallel port support
- Hard-Disk requirement: 6MB
- Dimensions: 9.5" x 6" x 2" (24 x 15 x 5 cm)
- Weight: approx. 2lbs (1kg)
- Shipping weight: 6lbs (3kg)

Package Includes:

- Programmer
- Mains adapter
- Parallel Cable
- Installation Guide
- DOS/Windows PC software
- Fault diagnostic software

Options:

- ROM/RAM Emulator card
- Range of package adapters
- Mains adapters for other voltages (UK, USA, Euro, Japan available)

ORDERING INFORMATION

MMLV48-xxx
xxx = mains supply: UK:240V, EUR:230V, JAP:100V, USA:115V

Designed & Manufactured in the UK

For further information, availability & pricing details, contact:

ICE Technology Ltd.
Unit 4, Penistone Court, Sheffield Road
Penistone, Sheffield. S36 6HP. UK
tel:+44(0)1226 767404 • **fax**:+44(0)1226 370434
email : sales@icetech.com

ICE Technology Inc.
PMB 309, 5380 Gulf of Mexico Drive
Longboat Key. FL34228. USA
tel:1 (941) 387 8166 • **fax**:1 (941) 387 9305
email : icetechusa@icetech.com

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